



Incoming
Task ID# 2283

March 13, 2008

Hand Delivered

Susan White
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114

Dear Ms. White:

RE: Amendment to Beck Street Reclamation Plan

Please find enclosed the following amendments regarding the Beck Street Reclamation Plan, along with a Form MR-REV.

Based upon the meetings between the Division and Staker & Parson Companies regarding the Beck Street Inspection and NOV, we believe all the issues brought forth have been addressed in an appropriate and satisfactory way.

We appreciate your time, and if you have any comments please let me know.

Sincerely,

Staker & Parson Companies

Michael Dalley
Environmental Affairs

080003

RECEIVED

MAR 14 2008

DIV. OF OIL, GAS & MINING **PH** 801-258-3800

FAX 801-258-3805

www.stakerparson.com

151 West Vine Street, Murray, UT 84107

Application for Mineral Mine Plan Revision or Amendment

Operator: <u>Staker Parson Companies</u>			
Mine Name: <u>Beck Street</u>		File Number: <u>M/ 035 / 019</u>	
<small>Provide a detailed listing of all changes to the mining and reclamation plan that will be required as a result of this change. Individually list all maps and drawings that are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise or amend the existing Mining and Reclamation Plan. Include page, section and drawing numbers as part of the description.</small>			
DETAILED SCHEDULE OF CHANGES TO THE MINING AND RECLAMATION PLAN			
			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	TOC Page ii
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 7
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 17
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 22
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Page 25
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix D
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments and obligations, herein.

Mike Dalley
Print Name

M. Dalley Environmental Advisor
Sign Name, Position
3-13-08
Date

Return to:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Phone: (801) 538-5291 Fax: (801) 359-3940

O:\FORMS\MR-REV-att.doc

FOR DOGM USE ONLY:	
File #: <u>M/</u> / <u></u>	
Approved: _____	
Bond Adjustment: from (\$) _____	
to \$ _____	

9.4	Bench Berms & Riprap	
9.5	Cleanup	26
9.6/7	Revegetation	28
9.8	Mobilization and Demobilization	28
9.9	Reclamation Cost Summary	28
10.0	References	29

List of Figures

Figure 1	Location and Land Status Map
Figure 2	Site Map
Figure 3	Existing Operations Map
Figure 4	Water Resources
Figure 5	Final Pit Plan
Figure 6-6a	Cross Sections
Figure 7	Catch Basin Schematic
Figure 8	August 2005 Aerial Photo
Figure 9	Conceptual Highwall Runoff Control Schematic

Appendices

Appendix A	– Correspondence
Appendix B	– Vegetation Survey Report
Appendix C	– Calculations & Safety Berm Construction
Appendix D	– Highwall Monitoring Plan

A conservative estimate of average salvageable topsoil depth, based upon NRCS soil survey information, was used to calculate how much topsoil would be available for final reclamation. Six inches of topsoil recovered from 20 acres would provide 16,133 cubic yards of topsoil.

4.6 Plan for Protecting and Redepositing of Topsoils

Topsoils will be removed from approximately 20 acres on the eastern benches, as mining progresses (Figure 3). Topsoil removed from this area to a depth of 6 inches will produce a total of 16,133 cubic yards of salvaged soil. The topsoil will be hauled with articulated haul trucks via the main haul road, to the pit floor. As areas are developed for mining, the soil will be stockpiled, seeded, and signed. The approximate locations for topsoil storage are shown on Figure 3.

During reclamation, stockpiled soils will be used in reclamation of the rockfall buffer strip and pit floor to enhance revegetation efforts in those areas. Soil will be placed using a backhoe or similar equipment, and spread with an appropriate blade.

The available quantity of wash plant fines varies from year to year. It is estimated that an average of approximately 15,000 tons of this material are produced per year. The wash plant fines would be utilized to fill any depressions on portions of the pit floor area during final grading for reclamation, and would be combined with topsoil as needed to provide cover and growth medium for areas to be revegetated. Staker commits to testing of the wash plant fines in the near future to determine their applicability as a growth medium.

4.7 Existing Vegetative Cover Communities and Cover Levels, Revegetation

Under R647-4-106 (7), the operations plan must provide a description of existing vegetative communities and cover levels, sufficient to establish revegetation success standards at 70% of pre-mining vegetative cover. Vegetation cover occurs on very little of the Beck Street Operations area. Within the property boundaries, the vegetative cover has undergone extensive disturbance due to past mining operations; only portions of the eastern bench remain relatively undisturbed.

The Soil Conservation Service (now Natural Resources Conservation Service) has classified the range site in this area as Upland Stony Loam (USDA, 1974). This range site occurs on high lake terraces, alluvial fans, and foothills in the Upland climatic zone. Potential native vegetation consists of approximately 55% perennial grass, 15% forbs, and 30% shrubs.

Patchy areas of vegetation on the site include species such as rabbitbrush, Louisiana sage, snakeweed, sunflower, thistle, needle & thread grass, brome grass, and cheat

6.3 Soils

There are no topsoils remaining on the operations area due to previous mining activities. Original topsoils were very limited and were not stockpiled. Although the majority of the mining area has been previously disturbed, relatively undisturbed soils remain on approximately 20 acres (Figure 3).

6.4 Slope Stability, Erosion, Air Quality, Public Health & Safety

6.4.1 Slope Stability

Two slope stability analyses covering the Staker property were performed in the 1990s: one in 1995 by AGRA (now AMEC), included in the RPI 1995 reclamation plan; and the other in 1997 by Dames and Moore in the Beck Street Reclamation Framework & Foothill Area Plan. The earlier plan report states that a compound slope, with an overall angle of 50 degrees would be stable with a 1.3 factor of safety, and the latter plan found a 60 degree slope to be stable. The reliability and accuracy of the geologic assumptions, including rock competency, used in these analyses were at issue.

An additional study was conducted in 2004 by Intermountain GeoEnvironmental Services, Inc. (IGES). The IGES Summary Report on Site Observations and Preliminary Engineering Analyses (October, 2004) concluded that the lowermost rock unit comprised of higher quality limestones can be reasonably steepened to 60 degrees. The upper lithologies require a combination of slope flattening and benching in order to achieve acceptable levels of stability.

Further geologic and geotechnical analysis has been conducted by IGES in 2005 to provide slope stability analysis of the southern portion of the mining area. This investigation included two continuously cored borings and several geophysical lines. Down-hole video logging was also performed within the borings (IGES 2005). Core samples were tested in the lab to evaluate physical and engineering properties. This report is being supplied to the Division under separate cover.

The proposed final highwall design for the southern portion of the mining area reflects the IGES study, with a proposed overall slope of approximately 58 degrees, comprised of 20-foot wide, 100-foot high benches. Deterministic factors of safety of 1.7 and 2.1 were computed for various methods used to assess the stability. Adequate factors of safety for the highwall in Phase 1 are achieved only when the excavated face trends no further east than true north.

Comparable geologic and geotechnical studies are planned for pit extremes in the remainder of the mining area in order to determine slope stability and final highwall design. Staker will visually inspect and monitor the condition of the highwall as described in Appendix D, and plans to assess the quality of the highwall rock/slope stability every five years.

7.2 Extent of Reclamation

Access Roads

All access roads utilized during production for the remaining life of the operations will be within the final pit limit configuration, and therefore will be eliminated as production progresses. No access roads will remain which would require reclamation. Offsite roads not owned or controlled by Staker & Parson Companies will not be reclaimed under this reclamation plan.

Safety Berms

Berms would be constructed at each end of each bench.

Highwall Benches

As each highwall bench is completed, before moving to the next lower level, a small berm will be constructed at the outer ends using in-place materials, and the final bench surface will be scarified and broadcast seeded. A mix of introduced and native rangeland species will be used. No topsoil would be applied. This, by necessity, will be a one-time attempt to revegetate each bench in order to provide some protection from noxious weeds and from erosion. No subsequent vegetation surveys will be attempted and no success standards will be applied to these benches. Reseeding of the highwall benches, by necessity, must occur whenever a bench is completed, regardless of season. The overall slope angle of the new quarry face would be 58 degrees at the southern end, transitioning to 45 degrees for the remainder of the quarry.

Pit Floor

Final surface preparation of the pit floor and seeding of the rockfall buffer area would be done following completion of mining.

Upon completion of mining and prior to reclamation, representative areas of the pit floor will be sampled for factors to determine the floor's ability to support growth. Depending upon the results of those tests, amendments such as composted manure will be added to the pit floor materials prior to application of the topsoil/fines mix as necessary to provide an acceptable growth medium. For surety purposes, it is assumed that composted manure will be incorporated into the pit floor materials.

7.3 Surface Facilities

No mining-related surface facilities would be left in the disturbance area as part of post-mining land use.

7.4 Deleterious Materials

There would be no acid forming or deleterious material present at this site. Therefore, no deleterious or acid forming material would be left on-site.

White yarrow	.5	_____
Blanket flower	.5	
Sainfoin	2.0	
Total	12.5	

6. Trash, scrap metal, wood, buildings, and any extraneous debris attributed to the active mining would be removed and properly disposed of within one year of cessation of operations.

8.0 Variances

R647-4-112.

The reclamation plans related to the proposed operations indicate that the following variances from the Division of Oil, Gas and Mining are proposed:

R647-4-111 Highwalls

Regrading the highwalls to 45 degrees or less on the southern end of the quarry should not be required because recent geologic and geotechnical studies show they are expected to be stable at an overall angle of 58 degrees. A Highwall Monitoring Plan is included in Appendix D. The highwalls would not contribute to unstable slope conditions and would not be a safety hazard due to the post-mining limitations on public access. Should further slope stability assessments support mining at a greater slope angle than 45 degrees in other areas of the pit, Staker would provide the documentation and request for variance at that time.

R647-4-111 Topsoil Redistribution

As indicated above, soils would be salvaged from undisturbed areas as mining progresses. Soil salvage areas are shown on Figure 3. A variance is being requested for areas where soils are not currently present.

R647-4-111 Revegetation

Some of the areas proposed for disturbance are essentially not vegetated at the present time and therefore a revegetation standard of 70 percent is not applicable. The success of the proposed revegetation treatment should be qualitatively based on the overall setting and proposed post-mining land use. Revegetation would be considered successful when completed according to the revegetation plan contained in this Notice of Intention. A variance on meeting revegetation standards is requested for the highwall benches and the pit floor outside of the rockfall buffer area. This request does not include the rockfall buffer .

9.0 Surety

All equipment costs include operating costs, maintenance, service, operator and supervision. These equipment costs include mobilization and de-mobilization. Equipment cost estimates for all operations except ripping were determined using Means Heavy Construction Cost Data, 19th Annual Edition. Reference to the particular section of this manual are shown. Ripping cost was based on the Caterpillar

Appendix D

Highwall Monitoring Plan

Monitoring plan for the 58° highwall:

1) Visual Inspections of Highwall

While the 58° highwall remains inactive, a qualified Staker Parson Companies representative will visually inspect the highwall slope itself and the adjacent pit floor (within and adjacent to the 100-foot set back) twice monthly. The inspector will take note of the following: evidence of slumping, cracking, caving, rock-fall, or settling; presence of loose material or rock that has been deposited on the benches or that has fallen to the pit floor; evidence of runoff or runoff-caused instability or surface erosion; and any other change in condition since the previous inspection. A written record of each inspection will be kept in a dedicated notebook, and stored in the engineering office. These inspection records will be made available to DOGM personnel when requested.

When mining begins again along the 58° highwall, the frequency of the above-noted visual inspections will be increased to weekly. In addition, persons working at the face will be instructed to report any unusual or problematic conditions or observations to the site engineer immediately.

2) Seismic Monitoring during Blasting Events

Last, as is done currently on a routine basis when blasting occurs, seismic monitoring will continue. Results of that monitoring will also be made available to DOGM personnel when requested.

9.4	Bench Berms & Riprap	
9.5	Cleanup	26
9.6/7	Revegetation	28
9.8	Mobilization and Demobilization	28
9.9	Reclamation Cost Summary	28
10.0	References	29

List of Figures

Figure 1	Location and Land Status Map
Figure 2	Site Map
Figure 3	Existing Operations Map
Figure 4	Water Resources
Figure 5	Final Pit Plan
Figure 6-6a	Cross Sections
Figure 7	Catch Basin Schematic
Figure 8	August 2005 Aerial Photo
Figure 9	Conceptual Highwall Runoff Control Schematic

Appendices

Appendix A – Correspondence
Appendix B – Vegetation Survey Report
Appendix C – Calculations & Safety Berm Construction
Appendix D – Highwall Monitoring Plan

3-13-08

Beth -

For review, I've included
the same set of pages here
(excluding Appendix D)
- with highlights of
text added.

Linda

JBR.

A conservative estimate of average salvageable topsoil depth, based upon NRCS soil survey information, was used to calculate how much topsoil would be available for final reclamation. Six inches of topsoil recovered from 20 acres would provide 16,133 cubic yards of topsoil.

4.6 Plan for Protecting and Redepositing of Topsoils

Topsoils will be removed from approximately 20 acres on the eastern benches, as mining progresses (Figure 3). Topsoil removed from this area to a depth of 6 inches will produce a total of 16,133 cubic yards of salvaged soil. The topsoil will be hauled with articulated haul trucks via the main haul road, to the pit floor. As areas are developed for mining, the soil will be stockpiled, seeded, and signed. The approximate locations for topsoil storage are shown on Figure 3.

During reclamation, stockpiled soils will be used in reclamation of the rockfall buffer strip and pit floor to enhance revegetation efforts in those areas. Soil will be placed using a backhoe or similar equipment, and spread with an appropriate blade.

The available quantity of wash plant fines varies from year to year. It is estimated that an average of approximately 15,000 tons of this material are produced per year. The wash plant fines would be utilized to fill any depressions on portions of the pit floor area during final grading for reclamation, and would be combined with topsoil as needed to provide cover and growth medium for areas to be revegetated. Staker commits to testing of the wash plant fines in the near future to determine their applicability as a growth medium.

4.7 Existing Vegetative Cover Communities and Cover Levels, Revegetation

Under R647-4-106 (7), the operations plan must provide a description of existing vegetative communities and cover levels, sufficient to establish revegetation success standards at 70% of pre-mining vegetative cover. Vegetation cover occurs on very little of the Beck Street Operations area. Within the property boundaries, the vegetative cover has undergone extensive disturbance due to past mining operations; only portions of the eastern bench remain relatively undisturbed.

The Soil Conservation Service (now Natural Resources Conservation Service) has classified the range site in this area as Upland Stony Loam (USDA, 1974). This range site occurs on high lake terraces, alluvial fans, and foothills in the Upland climatic zone. Potential native vegetation consists of approximately 55% perennial grass, 15% forbs, and 30% shrubs.

Patchy areas of vegetation on the site include species such as rabbitbrush, Louisiana sage, snakeweed, sunflower, thistle, needle & thread grass, brome grass, and cheat

6.3 Soils

There are no topsoils remaining on the operations area due to previous mining activities. Original topsoils were very limited and were not stockpiled. Although the majority of the mining area has been previously disturbed, relatively undisturbed soils remain on approximately 20 acres (Figure 3).

6.4 Slope Stability, Erosion, Air Quality, Public Health & Safety

6.4.1 Slope Stability

Two slope stability analyses covering the Staker property were performed in the 1990s: one in 1995 by AGRA (now AMEC), included in the RPI 1995 reclamation plan; and the other in 1997 by Dames and Moore in the Beck Street Reclamation Framework & Foothill Area Plan. The earlier plan report states that a compound slope, with an overall angle of 50 degrees would be stable with a 1.3 factor of safety, and the latter plan found a 60 degree slope to be stable. The reliability and accuracy of the geologic assumptions, including rock competency, used in these analyses were at issue.

An additional study was conducted in 2004 by Intermountain GeoEnvironmental Services, Inc. (IGES). The IGES Summary Report on Site Observations and Preliminary Engineering Analyses (October, 2004) concluded that the lowermost rock unit comprised of higher quality limestones can be reasonably steepened to 60 degrees. The upper lithologies require a combination of slope flattening and benching in order to achieve acceptable levels of stability.

Further geologic and geotechnical analysis has been conducted by IGES in 2005 to provide slope stability analysis of the southern portion of the mining area. This investigation included two continuously cored borings and several geophysical lines. Down-hole video logging was also performed within the borings (IGES 2005). Core samples were tested in the lab to evaluate physical and engineering properties. This report is being supplied to the Division under separate cover.

The proposed final highwall design for the southern portion of the mining area reflects the IGES study, with a proposed overall slope of approximately 58 degrees, comprised of 20-foot wide, 100-foot high benches. Deterministic factors of safety of 1.7 and 2.1 were computed for various methods used to assess the stability. Adequate factors of safety for the highwall in Phase 1 are achieved only when the excavated face trends no further east than true north.

Comparable geologic and geotechnical studies are planned for pit extremes in the remainder of the mining area in order to determine slope stability and final highwall design. Staker will visually inspect and monitor the condition of the highwall as described in Appendix D, and plans to assess the quality of the highwall rock/slope stability every five years.

7.2 Extent of Reclamation

Access Roads

All access roads utilized during production for the remaining life of the operations will be within the final pit limit configuration, and therefore will be eliminated as production progresses. No access roads will remain which would require reclamation. Offsite roads not owned or controlled by Staker & Parson Companies will not be reclaimed under this reclamation plan.

Safety Berms

Berms would be constructed at each end of each bench.

Highwall Benches

As each highwall bench is completed, before moving to the next lower level, a small berm will be constructed at the outer ends using in-place materials, and the final bench surface will be scarified and broadcast seeded. A mix of introduced and native rangeland species will be used. No topsoil would be applied. This, by necessity, will be a one-time attempt to revegetate each bench in order to provide some protection from noxious weeds and from erosion. No subsequent vegetation surveys will be attempted and no success standards will be applied to these benches. Reseeding of the highwall benches, by necessity, must occur whenever a bench is completed, regardless of season. The overall slope angle of the new quarry face would be 58 degrees at the southern end, transitioning to 45 degrees for the remainder of the quarry.

Pit Floor

Final surface preparation of the pit floor and seeding of the rockfall buffer area would be done following completion of mining.

Upon completion of mining and prior to reclamation, representative areas of the pit floor will be sampled for factors to determine the floor's ability to support growth. Depending upon the results of those tests, amendments such as composted manure will be added to the pit floor materials prior to application of the topsoil/fines mix as necessary to provide an acceptable growth medium. For surety purposes, it is assumed that composted manure will be incorporated into the pit floor materials.

7.3 Surface Facilities

No mining-related surface facilities would be left in the disturbance area as part of post-mining land use.

7.4 Deleterious Materials

There would be no acid forming or deleterious material present at this site. Therefore, no deleterious or acid forming material would be left on-site.

White yarrow	.5	_____
Blanket flower	.5	
Sainfoin	2.0	
Total	12.5	

6. Trash, scrap metal, wood, buildings, and any extraneous debris attributed to the active mining would be removed and properly disposed of within one year of cessation of operations.

8.0 Variances

R647-4-112.

The reclamation plans related to the proposed operations indicate that the following variances from the Division of Oil, Gas and Mining are proposed:

R647-4-111 Highwalls

Regrading the highwalls to 45 degrees or less on the southern end of the quarry should not be required because recent geologic and geotechnical studies show they are expected to be stable at an overall angle of 58 degrees. A Highwall Monitoring Plan is included in Appendix D. The highwalls would not contribute to unstable slope conditions and would not be a safety hazard due to the post-mining limitations on public access. Should further slope stability assessments support mining at a greater slope angle than 45 degrees in other areas of the pit, Staker would provide the documentation and request for variance at that time.

R647-4-111 Topsoil Redistribution

As indicated above, soils would be salvaged from undisturbed areas as mining progresses. Soil salvage areas are shown on Figure 3. A variance is being requested for areas where soils are not currently present.

R647-4-111 Revegetation

Some of the areas proposed for disturbance are essentially not vegetated at the present time and therefore a revegetation standard of 70 percent is not applicable. The success of the proposed revegetation treatment should be qualitatively based on the overall setting and proposed post-mining land use. Revegetation would be considered successful when completed according to the revegetation plan contained in this Notice of Intention. A variance on meeting revegetation standards is requested for the highwall benches and the pit floor outside of the rockfall buffer area. This request does not include the rockfall buffer.

9.0 Surety

All equipment costs include operating costs, maintenance, service, operator and supervision. These equipment costs include mobilization and de-mobilization. Equipment cost estimates for all operations except ripping were determined using Means Heavy Construction Cost Data, 19th Annual Edition. Reference to the particular section of this manual are shown. Ripping cost was based on the Caterpillar